

Міністерство
освіти і науки
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Національний університет біоресурсів і
природокористування України
Механіко-технологічний факультет



Представництво Польської академії наук в Києві
Відділення в Любліні Польської академії наук
Академія інженерних наук України
Українська асоціація аграрних інженерів



***ЗБІРНИК ТЕЗ ДОПОВІДЕЙ
II МІЖНАРОДНОЇ НАУКОВО-ПРАКТИЧНОЇ
КОНФЕРЕНЦІЇ***

"Агроінженерія:

сучасні проблеми та перспективи розвитку"

(7–8 листопада 2019 року)

присвячена

90-й річниці з дня заснування

механіко-технологічного факультету НУБіП України



Київ – 2019

UDC 631.3

ANALYSIS OF APPLICABILITY OF METHODS FOR ESTIMATING OF OCCUPATIONAL RISK IN AGRICULTURE

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Investigating the causes of high levels of occupational injuries among agricultural mechanizes is one of the complex tasks that require complex scientific research. It should be noted that the vast majority of research of the problems of industrial risk assessment concerns industry, energy and transport, but agriculture is neglected.

The system of management of occupational safety in agriculture should be based on the introduction of effective mechanisms to reduce of occupational risks to an acceptable level. At the same time, the risk indicators in agriculture must be calculated on the basis of objective statistical parameters, which are obtained not only from the analysis of the causes of industrial injuries, but also from the technical diagnostics of machines and mechanisms, which is one of the preventive measures.

The urgent question remains the ways and methods of quantification of operational risk in the agricultural sector. However, as for the definition of the terms "risk" and "safety", as well as the ways and methods of risk assessment, there is not yet a single optimal approach among scientists which is confirmed by numerous publications on the subject.

In particular, these methods allow us to estimate the risk of structural failure due to the propagation of multi-cycle fatigue cracks in stress concentration zones, taking into account the irregularity of operational load and stochastic distribution of defects in structural elements. It is shown that improving the reliability of the equipment is associated with the detection of the most dangerous damage during periodic defectoscopic control of the structure.

Analyzing the various methods and approaches for risk assessment, we can distinguish the most used of them: the method of "tree", the method of "Markov

processes", statistical method, method of expert evaluation and others, which are based on the modeling of the studied processes and phenomena. With regard to the methods of assessing the occupational risk of agricultural workers in general and of tractor drivers in particular, they find their basis in methods and approaches that are widely used in other industries, although the volume and depth of these studies in the agricultural industry is much smaller.

Summarizing the review of available methods of occupational risk research, it should be noted that individually taken, they do not allow to describe a holistic picture of the real state of occupational safety in agriculture, and the specificity of agricultural production very often makes any analysis rather relative and conditional. Hence, it becomes necessary to search for such theoretical foundations and methodological approaches, the use of which would allow to more accurately and objectively investigate the professional risk of mechanizers in agriculture and, on this basis, to offer ways to reduce it.